

FIG.1A

CAAAACAGCAACAGAAAGCAGGACGTGAGACTTCTACCTGCTCACTCAGAATCATTTCT 60

 GCACCAACCATGGCCACGTTTGTGGAGCTCAGTACCAAGCCAAGATGCCCATTTGTGGC 120
 M A T F V E L S T K A K M P I V G 17
 CTGGGCACTTGGAAGTCTCCTCTCGGCAAAAGTGAAGAGCAGTGAAGGTGGCCATTGAT 180
 L G T W K S P L G K V K E A V K V A I D 37
 GCAGGATATCGGCACATTGACTGTGCCCTATGTCTATCAGAATGAACATGAAGTGGGGAA 240
 A G Y R H I D C A Y V Y Q N E H E V G E 57
 GCCATCCAAGAGAAGATCCAAGAGAAGGCTGTGAAGCGGAGGACCTGTTTCATCGTCAGC 300
 A I Q' E K I Q E K A V K R E D L F I V S 77
 AAGTTGTGGCCCACTTCCAGATCGAGAAGCTCTTGAACAAACCTGGACTGAAATATAAAC 360
 K L W P T S R S R S S * 88

FIG.1B

CAGTGACTAACCAAGGTTGAGTGTCACCCATAACCTCACGCAGGAGAACTGATCCAGTACT 420

GCCACTCCAAGGGCATCACCGTTACGGCCTACAGCCCCCTGGGCTCTCCGGATAGACCCTT 480

GGGCCAAGCCAGAAGACCCCTTCCCTGCTGGAGGATCCCAAGATTAGGAGATTGCTGCAA 540

AGCACAAAAAACCAGCCCCAGGTTCTGATCCGTTTCCATATCCAGAGGAATGTGATTG 600

TCATCCCCAAGTCTGTGACACCAGCACGCATTGTTGAGAACAATTCAGGTCTTTGACTTTA 660

AATTGAGTGATGAGGAGATGGCAACCATACTCAGCTTCAACAGAAACTGGAGGGCCTGTA 720

ACGTGTTGCAATCCTCTCATTTGGAAGACTATCCCTTCGATGCAGAATAATTGAGGTTGAA 780

FIG.1C

TCTCCTGGTGAGATTATACAGGAGATTCTCTTTCTTCGCTGAAGTGTGACTACCTCCACT 840

CATGTCCCATTTTAGCCAAGCTTATTTAAGATCACAGTGAACCTTAGTCCTGTATAGACG 900

AGAATCGAGGTGCTGTTTTAGACATTTATTTCTGTATGTTCAACTAGGATCAGAATATCA 960

CAGAAAAGCATGGCTTGAATAAGGAAATGACAATTTTTCCACTTATCTGATCAGAACAA 1020

ATGTTTATTAAGCATCAGAAACTCTGCCAACACTGAGGATGTAAAGATCAATAAAAAAA 1080

TAATAATCAT 1090

FIG.2A

CAAAACAGCAACAGAAAGCAGGACGTGAGACTTCTACCTGCTCACTCAGAATCATTTCT 60
 GCACCAACCATGGCCACGTTTGTGGAGCTCAGTACCAAGCCAAGATGCCCATTTGTGGGC 120
 M A T F V E L S T K A K M P I V G 17
 CTGGGCACTTGGAAAGTCTCCTCTCGGCAAAAGTGAAAGCAGTGAAAGGTGGCCATTGAT 180
 L G T W K S P L G K V K E A V K V A I D 37
 GCAGGATATCGGCACATTGACTGTGCCCTATGTCTATCAGAAATGAACATGAAGTGGGGGAA 240
 A G Y R H I D C A Y V Y Q N E H E V G E 57
 GCCATCCAAGAGAAGATCCAAGAGAAGGCTGTGAAGCGGGAGGACCTGTTTCATCGTCAGC 300
 A I Q E K I Q E K A V K R E D L F I V S 77
 AAGTTGTGGCCCACTTTCTTTGAGAGACCCCTTGTGAGGAAAGCCTTTGAGAAGACCCCTC 360
 K L W P T F F E R P L V R K A F E K T L 97
 AAGGACCTGAAGCTGAGCTATCTGGACGTCATCTTATTCACTGGCCACAGGGATTCAAG 420
 K D L K L S Y L D V Y L I H W P Q G F K 117
 TCTGGGATGACCTTTTCCCAAGATGATAAAGGTAATGCCATCGGTGGAAGCAACG 480
 S G D D L F P P K D D K G N A I G G K A T 137

FIG.2B

TTCTTGGATGCCCTGGGAGGCCATGGAGGAGCTGGTGGATGAGGGGCTGGTGAAAGCCCTT 540
F L D A W E A M E E L V D E G L V K A L 157
GGGTCTCCAATTTCAGCCACTTCCAGATCGAGAAGCTCTTGAACAAACCTGGACTGAAA 600
G V S N F S H F Q I E K L L N K P G L K 177
TATAAACCAAGTACTAACCAGGTTGAGTGTACCCCATACCTCACGCAGGAGAAACTGATC 660
Y K P V T N Q V E C H P Y L T Q E K L I 197
CAGTACTGCCACTCCAAGGGCATCACCGTTACGGCCTACAGCCCCCTGGGCTCTCCGGAT 720
Q Y C H S K G I T V T A Y S P L G S P D 217
AGACCTTGGGCCAAGCCAGAAGACCCTTCCCTGCTGGAGGATCCCAAGATTAAAGGAGATT 780
R P W A K P E D P S L L E D P K I K E I 237
GCTGCAAGCACTCCCCAAGTCTGTGACACCAGCACGCAATTGTTGAGAACAATTCAGGTCT 840
A A K H S P S L * 245

FIG.2C

TTGACTTTAAATTGAGTGATGAGGAGATGGCAACCATACTCAGCTTCAACAGAAACTGGA 900

GGGCCTGTAAACGTGTTGCAATCCTCTCATTTTGGAGACTATCCCTTCGATGCAGAATATT 960

GAGGTTGAATCTCCTGGTGAGATTATACAGGAGATTCTCTTCTTCGCTGAAGTGTGACT 1020

ACCTCCACTCATGTCCCATTTTAGCCAAGCTTATTTAAAGATCACAGTGAACTTAGTCCTG 1080

TTATAGACGAGAAATCGAGGTGCTGTTTTAGACATTTATTTCTGTATGTTCAACTAGGATC 1140

AGAATATCACAGAAAAGCATGGCTTGAATAAGGAAATGACAAATTTTCCACTTATCTGA 1200

TCAGAACAAATGTTTTATTAAAGCATCAGAAACTCTGCCAACACTGAGGATGTAAAGATCAA 1260

TAAAAAAATAATAATCAT 1279

FIG.3A

1 60

ARLV1 CAAAACAGCAACAG AAAGCAGGACGTGAG ACTTCTACCTGCTCA CTCAGAATCATTCT
ARLV2 CAAAACAGCAACAG AAAGCAGGACGTGAG ACTTCTACCTGCTCA CTCAGAATCATTCT
ARL CAAAACAGCAACAG AAAGCAGGACGTGAG ACTTCTACCTGCTCA CTCAGAATCATTCT

61 120

ARLV1 GCACCAACCATGGCC ACGTTTGTGGAGCTC AGTACCAAAGCCAAG ATGCCCATTTGTGGGC
ARLV2 GCACCAACCATGGCC ACGTTTGTGGAGCTC AGTACCAAAGCCAAG ATGCCCATTTGTGGGC
ARL GCACCAACCATGGCC ACGTTTGTGGAGCTC AGTACCAAAGCCAAG ATGCCCATTTGTGGGC

121 180

ARLV1 CTGGGCACCTTGAAG TCTCCTCTCGGCAAA GTGAAAGAAGCAGTG AAGGTGGCCATTGAT
ARLV2 CTGGGCACCTTGAAG TCTCCTCTCGGCAAA GTGAAAGAAGCAGTG AAGGTGGCCATTGAT
ARL CTGGGCACCTTGAAG TCTCCTCTCGGCAAA GTGAAAGAAGCAGTG AAGGTGGCCATTGAT

FIG.3B

181 240
ARLV1 GCAGGATATCGGCAC ATTGACTGTGCCCTAT GTCTATCAGAATGAA CATGAAGTGGGGGAA
ARLV2 GCAGGATATCGGCAC ATTGACTGTGCCCTAT GTCTATCAGAATGAA CATGAAGTGGGGGAA
ARL GCAGGATATCGGCAC ATTGACTGTGCCCTAT GTCTATCAGAATGAA CATGAAGTGGGGGAA

241 300
ARLV1 GCCATCCAAGAGAAG ATCCAAGAGAAGGCT GTGAAGCGGGAGGAC CTGTTTCATCGTCAGC
ARLV2 GCCATCCAAGAGAAG ATCCAAGAGAAGGCT GTGAAGCGGGAGGAC CTGTTTCATCGTCAGC
ARL GCCATCCAAGAGAAG ATCCAAGAGAAGGCT GTGAAGCGGGAGGAC CTGTTTCATCGTCAGC

301 360
ARLV1 AAGTTGTGGCCCACT T-----
ARLV2 AAGTTGTGGCCCACT TTCTTTGAGAGACCC CTTGTGAGGAAAGCC TTGAGAAGACCCCTC
ARL AAGTTGTGGCCCACT TTCTTTGAGAGACCC CTTGTGAGGAAAGCC TTGAGAAGACCCCTC

FIG.3C

361 420

ARLV1 -----
ARLV2 AAGGACCTGAAGCTG AGCTATCTGGACGTC TATCTTATTCACTGG CCACAGGGATTCAAG
ARL AAGGACCTGAAGCTG AGCTATCTGGACGTC TATCTTATTCACTGG CCACAGGGATTCAAG

421 480

ARLV1 -----
ARLV2 TCTGGGGATGACCTT TTCCCCAAAGATGAT AAAGGTAATGCCATC GGTGAAAAGCAACG
ARL TCTGGGGATGACCTT TTCCCCAAAGATGAT AAAGGTAATGCCATC GGTGAAAAGCAACG

481 540

ARLV1 -----
ARLV2 TTCTTGGATGCCCTGG GAGGCCATGGAGGAG CTGGTGGATGAGGGG CTGGTGAAGCCCTT
ARL TTCTTGGATGCCCTGG GAGGCCATGGAGGAG CTGGTGGATGAGGGG CTGGTGAAGCCCTT

FIG.3D

ARLV1	-----CCAGATC	GAGAAGCTCTGAAC	AAACCTGGACTGAAA	600	
ARLV2	GGGTCTCCAATTTC	AGCCACTTCCAGATC	GAGAAGCTCTTGAAC	AAACCTGGACTGAAA	
ARL	GGGTCTCCAATTTC	AGCCACTTCCAGATC	GAGAAGCTCTTGAAC	AAACCTGGACTGAAA	
ARLV1	TATAAACCACTGACT	AACCAGGTTGAGTGT	CACCCATACCTCAGC	CAGGAGAACTGATC	660
ARLV2	TATAAACCACTGACT	AACCAGGTTGAGTGT	CACCCATACCTCAGC	CAGGAGAACTGATC	
ARL	TATAAACCACTGACT	AACCAGGTTGAGTGT	CACCCATACCTCAGC	CAGGAGAACTGATC	
ARLV1	CAGTACTGCCACTCC	AAGGGCATCACCGTT	ACGGCCTACAGCCCC	CTGGGCTCTCCGGAT	720
ARLV2	CAGTACTGCCACTCC	AAGGGCATCACCGTT	ACGGCCTACAGCCCC	CTGGGCTCTCCGGAT	
ARL	CAGTACTGCCACTCC	AAGGGCATCACCGTT	ACGGCCTACAGCCCC	CTGGGCTCTCCGGAT	

FIG.3E

721 780
 ARLV1 AGACCTTGGGCCAAG CCAGAAGACCCCTTCC CTGCTGGAGGATCCC AAGATTAAAGGAGATT
 ARLV2 AGACCTTGGGCCAAG CCAGAAGACCCCTTCC CTGCTGGAGGATCCC AAGATTAAAGGAGATT
 ARL AGACCTTGGGCCAAG CCAGAAGACCCCTTCC CTGCTGGAGGATCCC AAGATTAAAGGAGATT

781 840
 ARLV1 GCTGCAAGCACAA AAAACCGAGCCAG GTTCTGATCCGTTTC CATATCCAGAGGAAT
 ARLV2 GCTGCAAGCACAC-----
 ARL GCTGCAAGCACAA AAAACCGAGCCAG GTTCTGATCCGTTTC CATATCCAGAGGAAT

841 900
 ARLV1 GTGATTGTCATCCCC AAGTCTGTGACACCA GCACGCATTGTTGAG AACATTCAGGTCTTT
 ARLV2 -----TCCCC AAGTCTGTGACACCA GCACGCATTGTTGAG AACATTCAGGTCTTT
 ARL GTGATTGTCATCCCC AAGTCTGTGACACCA GCACGCATTGTTGAG AACATTCAGGTCTTT

FIG.3F

901 960

ARLV1 GACTTTAAATTGAGT GATGAGGAGATGGCA ACCATACTCAGCTTC AACAGAAACTGGAGG
ARLV2 GACTTTAAATTGAGT GATGAGGAGATGGCA ACCATACTCAGCTTC AACAGAAACTGGAGG
ARL GACTTTAAATTGAGT GATGAGGAGATGGCA ACCATACTCAGCTTC AACAGAAACTGGAGG

961 1020

ARLV1 GCCTGTAACGTGTTG CAATCCTCTCATTTG GAAGACTATCCCCTTC GATGCAGAAATATTGA
ARLV2 GCCTGTAACGTGTTG CAATCCTCTCATTTG GAAGACTATCCCCTTC GATGCAGAAATATTGA
ARL GCCTGTAACGTGTTG CAATCCTCTCATTTG GAAGACTATCCCCTTC GATGCAGAAATATTGA

1021 1080

ARLV1 GGTGAATCTCCTGG TGAGATTATACAGGA GATTCTCTTTCTTCG CTGAAGTGTGACTAC
ARLV2 GGTGAATCTCCTGG TGAGATTATACAGGA GATTCTCTTTCTTCG CTGAAGTGTGACTAC
ARL GGTGAATCTCCTGG TGAGATTATACAGGA GATTCTCTTTCTTCG CTGAAGTGTGACTAC

FIG.3G

	1081	1140
ARLV1	CTCCACTCATGTCCC ATTTAGCCAAGCTT ATTTAAGATCACAGT	GAACTTAGTCCTGTT
ARLV2	CTCCACTCATGTCCC ATTTAGCCAAGCTT ATTTAAGATCACAGT	GAACTTAGTCCTGTT
ARL	CTCCACTCATGTCCC ATTTAGCCAAGCTT ATTTAAGATCACAGT	GAACTTAGTCCTGTT
	1141	1200
ARLV1	ATAGACGAGAATCGA GGTGCTGTTTTAGAC ATTTATTTCTGTATG	TTCAACTAGGATCAG
ARLV2	ATAGACGAGAATCGA GGTGCTGTTTTAGAC ATTTATTTCTGTATG	TTCAACTAGGATCAG
ARL	ATAGACGAGAATCGA GGTGCTGTTTTAGAC ATTTATTTCTGTATG	TTCAACTAGGATCAG
	1201	1260
ARLV1	AATATCACAGAAAAG CATGGCTTGAATAAG GAAATGACAATTTTT	TCCACTTATCTGATC
ARLV2	AATATCACAGAAAAG CATGGCTTGAATAAG GAAATGACAATTTTT	TCCACTTATCTGATC
ARL	AATATCACAGAAAAG CATGGCTTGAATAAG GAAATGACAATTTTT	TCCACTTATCTGATC

FIG.3H

1261

1320

ARLV1 AGAACAAATGTTTAT TAAGCATCAGAAACT CTGCCAACACTGAGG ATGTAAAGATCAATA
ARLV2 AGAACAAATGTTTAT TAAGCATCAGAAACT CTGCCAACACTGAGG ATGTAAAGATCAATA
ARL AGAACAAATGTTTAT TAAGCATCAGAAACT CTGCCAACACTGAGG ATGTAAAGATCAATA

1321

ARLV1 AAAAAAATAATAATC AT 1090
ARLV2 AAAAAAATAATAATC AT 1279
ARL AAAAAAATAATAATC AT 1337

FIG.4A

1 60

ARLV1 MATFVELSTKAKMPI VGLGTWKSPLGKVKE AVKVAIDAGYRHIDC AYVYQNEHEVGEAIIQ
 ARLV2 MATFVELSTKAKMPI VGLGTWKSPLGKVKE AVKVAIDAGYRHIDC AYVYQNEHEVGEAIIQ
 ARL MATFVELSTKAKMPI VGLGTWKSPLGKVKE AVKVAIDAGYRHIDC AYVYQNEHEVGEAIIQ

61 120

ARLV1 EKIQEKAVKREDLFI VSKLWPT-----
 ARLV2 EKIQEKAVKREDLFI VSKLWPTFFERPLVR KAFEKTLKDLKLSYL DVYLIHWPPQGFKSGD
 ARL EKIQEKAVKREDLFI VSKLWPTFFERPLVR KAFEKTLKDLKLSYL DVYLIHWPPQGFKSGD

121 180

ARLV1 -----
 ARLV2 DLFPKDDKGNIGGK ATFLDAWEAMEELVD EGLVKALGVSNFSHF QIEKLLNKPGLKYKP
 ARL DLFPKDDKGNIGGK ATFLDAWEAMEELVD EGLVKALGVSNFSHF QIEKLLNKPGLKYKP

FIG.4B

181 240

ARLV1 -----
 ARLV2 VTNQVECHPYLTQEK LIQYCHSKGITYAY SPLGSPDRPWAKPED PSLEDPKIKEIAAK
 ARL VTNQVECHPYLTQEK LIQYCHSKGITYAY SPLGSPDRPWAKPED PSLEDPKIKEIAAK

241 300

ARLV1 -----
 ARLV2 H-----
 ARL HKKTAQVLRFHQ RNVVVPKSVTPARI VENIQVEFKLSDEE MATILSFNRNRACN

301

ARLV1 -----SRSRSS 88
 ARLV2 -----SPSL-- 245
 ARL VLOSSHLEDYPFDAE Y----- 316